

AMENDMENTS TO THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as shown below.

This listing of claims replaces all previous versions and listings of claims in the present patent application.

Listing of Claims

1. – 10. (Cancelled)

11. (Currently Amended) A relay server of a service delivery system, in which a session initiation protocol (SIP) session is established between a client terminal and an application server over a network through the relay server, and in which, after the SIP session is established, the application server delivers a service directly to the client terminal over the network via an application session different from the SIP session, the relay server comprising:

a requester that receives, by a receiver, [[a]] an SIP session establishment request over the network, from the client terminal, including service request information of the client terminal;

an authenticator that controls, by a controller, registration information of the client terminal, and authenticates the client terminal based on the service request information and the registration information;

a searcher that searches a memory in the relay server for the application server that delivers the service included in the service request information;

a service inquiry relay that relays, by a transmitter, the SIP session establishment request over the network, to the searched application server, in order to inquire of the searched application server whether it is possible to deliver the service to the client terminal;

a response relay that receives, by the receiver, [[a]] an SIP response to the inquiry over the network, from the application server, and sends, by the transmitter, the SIP response to the client terminal over the network; and

a confirmation relay that relays [[a]] an SIP confirmation request, received by the receiver, to the application server over the network when the confirmation relay receives the SIP confirmation request from the client terminal over the network according to the SIP response, in order to establish the SIP session between the client terminal and the application server over the network,

wherein the SIP session continues while the service is delivered from the application server to the client terminal via the application session.

12. (Previously Presented) The relay server of claim 11, wherein service content and client information are specified based on rules according to data included in the service request information.

13. (Currently Amended) The relay server of claim 11, further comprising:

a disconnection requester that receives a disconnection request from the client terminal and sends the disconnection request to the application server;

a session controller that measures a duration of the SIP session when the SIP session is disconnected, based on the disconnection request; and

a time biller that creates billing information based on the measured duration.

14. (Previously Presented) The relay server of claim 11, further comprising:

an application biller that creates billing information based on a request from the application server.

15. (Currently Amended) The relay server of claim 11, further comprising:

a change requester that receives a session change request including service change information of the client terminal for the established SIP session, from the client terminal, wherein:

the searcher searches an application server that delivers a changed service included in the service change information, in response to the session change request, and

the service inquiry relay relays the session ~~establishment~~ change request, to the searched application server, in order to inquire of the searched application server whether it is possible to deliver the changed service to the client terminal.

16. (Currently Amended) The relay server of claim 11, further comprising:

a transfer requester that receives a session transfer request including service request information of the client terminal for the established SIP session, from the client terminal, wherein:

the searcher searches a second application server that delivers the service included in the service request information, in response to the session transfer request,

the service inquiry relay relays the session transfer request, to the searched second application server, in order to inquire of the searched second application server whether it is possible to deliver the service to the client terminal, and

the response relay receives [[a]] an SIP response to the inquiry, from the second application server, and sends the SIP response to the client terminal.

17. (Currently Amended) The relay server of claim 11, wherein:

the searcher searches at least one application server that delivers the service included in the service request information,

the service inquiry relay relays the SIP session establishment request to the searched at least one application server, in order to inquire of the searched at least one application server whether it is possible to deliver the service to the client terminal,

the response relay receives [[a]] an SIP response to the inquiry, from each of the searched at least one application server, and sends the SIP response to the client terminal, and

when the confirmation relay receives [[a]] an SIP confirmation request from the client terminal according to the SIP response from each of the searched at least one application server, the confirmation relay relays the SIP confirmation request to the searched at least one application server, in order to establish the SIP session between each of the searched at least one application server and the client terminal, for one SIP session establishment request.

18. (Currently Amended) A service control method for a relay server in a service delivery system, in which a session initiation protocol (SIP) session is established between a client terminal and an application server over a network through the relay server, and in which,

after the SIP session is established, the application server delivers a service directly to the client terminal over the network via an application session different from the SIP session, the service control method comprising:

receiving, by a receiver of the relay server, [[a]] an SIP session establishment request over the network, from the client terminal, including service request information of the client terminal, at a requester in the relay server;

authenticating, by a controller in the relay server, the client terminal based on the service request information and previously-registered client information, [[at]] using an authenticator in the relay server;

searching a memory in the relay server for an application server that delivers the service included in the service request information, [[at]] using a searcher in the relay server;

relaying, by a transmitter in the relay server, the SIP session establishment request over the network, to the searched application server, in order to inquire of the searched application server whether it is possible to deliver the service to the client terminal, at a service inquiry relay in the relay server;

receiving, by the receiver, [[a]] an SIP response to the inquiry over the network, from the application server, and sending, by the transmitter, the SIP response over the network to the client terminal, [[at]] using a response relay in the relay server; and

relaying, by the transmitter, [[a]] an SIP confirmation request over the network to the application server when the confirmation relay receives the SIP confirmation request over the network from the client terminal according to the SIP response, in order to establish the SIP session between the client terminal and the application server over the network.

wherein the SIP session continues while the service is delivered from the application server to the client terminal via the application session.

19. (Currently Amended) A non-transitory program stored on a computer readable medium that is stored in a relay server of a service delivery system, in which a session initiation protocol (SIP) session is established between a client terminal and an application server over a network through the relay server, and in which, after the SIP session is established, the application server delivers a service directly to the client terminal over the network via an application session different from the SIP session, the computer readable medium storing a program that causes a computer to function as the relay server according to claim 11 execute:

receiving, by a receiver of the relay server, an SIP session establishment request over the network, from the client terminal, including service request information of the client terminal;

authenticating, by a controller in the relay server, the client terminal based on the service request information and previously-registered client information;

searching a memory in the relay server for an application server that delivers the service included in the service request information;

relaying, by a transmitter in the relay server, the SIP session establishment request over the network, to the searched application server, in order to inquire of the searched application server whether it is possible to deliver the service to the client terminal;

receiving, by the receiver, an SIP response to the inquiry over the network, from the application server, and sending, by the transmitter, the SIP response over the network to the client terminal; and

relaying, by the transmitter, an SIP confirmation request over the network to the application server when the confirmation relay receives the SIP confirmation request over the network from the client terminal according to the SIP response, in order to establish the SIP session between the client terminal and the application server over the network,

wherein the SIP session continues while the service is delivered from the application server to the client terminal via the application session.

20. (Cancelled)

21. (Previously Presented) The relay server of claim 11, wherein a response is sent back to the client terminal indicating an error when at least one of the authentication and the search fails.

22. (Currently Amended) The relay server of claim 11, wherein:

when the searcher searches a plurality of application servers, the service inquiry relay relays the SIP session establishment request, to the searched plurality of application servers, in order to inquire of the searched plurality of application servers whether it is possible to deliver the service to the client terminal; and

when the response relay receives [[a]] an SIP response to the inquiry, from one of the searched plurality of application servers, the response relay sends this received SIP response to the client terminal and sends a cancel request to the rest of the searched plurality of application servers.

23. (Cancelled)

24. (Currently Amended) The relay server of claim 11, further comprising:

a disconnection requester that receives a disconnection request from the application server and sends the disconnection request to the client terminal;

a session controller that measures a duration of the SIP session when the SIP session is disconnected in response to the disconnection request; and

a time biller that creates billing information based on the measured duration of the session.

25. (Currently Amended) The relay server of claim 11, further comprising:

a change requester that receives, from the application server, a session change request that includes service change information, for the established SIP session, wherein:

the searcher searches an application server that delivers a changed service included in the service change information, in response to the session change request, and

the service inquiry relay relays the session ~~establishment~~ change request, to the searched application server, in order to inquire of the searched application server whether it is possible to deliver the changed service to the client terminal.